Claims

1. An absorbent article comprising a liquid permeable upper surface and an absorbent structure, which article in the longitudinal direction has a crotch portion and two end portions, wherein the absorbent structure comprises an acquisition layer and at least one first storage layer, wherein said first storage layer comprises at least 50 percent by weight of a super absorbent material calculated on the total weight of the first storage layer, wherein the first storage layer in a dry condition has a density exceeding 0.4 g/cm^3, and said first storage layer in the crotch portion of the absorbent structure has apertures or recesses.

2. The absorbent article according to claim 1, wherein the first storage layer has a density exceeding 0.5 g/cm^3.

3. The absorbent article according to claim 1, wherein the first storage layer comprises at least 70 percent by weight of a super absorbent material calculated on the total weight of the first storage layer.

4. The absorbent article according to claim 1, wherein the apertures or recesses extend through an entire thickness of the first storage layer.

5. The absorbent article according to claim 1, wherein the apertures or recesses extend along the longitudinal direction of the absorbent structure, wherein the apertures or recesses comprise longitudinal channels.

6. The absorbent article according to claim 1, wherein material between the apertures or recesses, in the crotch portion of the first storage layer, exhibits a width being maximally 20 mm.

7. The absorbent article according to claim 1, wherein the first storage layer has a first surface facing the liquid permeable upper surface of the article, and a second surface facing away from the liquid permeable surface of the article, wherein the acquisition layer lies close to the first surface of the storage layer.

8. The absorbent article according to claim 1, wherein the first storage layer has a first surface facing the liquid permeable upper surface of the article, and a second surface facing away from the liquid permeable surface of the article, wherein the acquisition layer lies close to the second surface of the storage layer.

9. The absorbent article according to claim 8, wherein the absorbent article comprises a liquid permeable top sheet, wherein the liquid permeable top sheet and the acquisition layer are thermally joined in a hollow space in the first storage layer created by said apertures or recesses.

10. The absorbent article according to claim 1, wherein the acquisition layer is a polyacrylate based super absorbent foam material.

11. The absorbent article according to claim 10, wherein said foam material exhibits a Gurley stiffness value lower than 1000 mg and a density in a dry condition exceeding 0.5 g/cm^3.

12. The absorbent article according to claim 1, wherein the acquisition layer is a fibrous layer including polyacrylate-based particles or a polyacrylate-based coating bonded to the fibrous layer, wherein the polyacrylate-based particles or the polyacrylate-based coating is bonded to the fibrous layer by spraying acrylic acid monomers are sprayed onto the fibrous layer whereby the acrylic acid monomer is allowed to polymerise.

13. The absorbent article according to claim 1, wherein the acquisition layer is corona treated.

14. The absorbent article according to claim 1, wherein the absorbent structure further comprises a second storage layer containing a lower amount of super absorbent material calculated on the total weight of the storage layer than the first storage layer.

15. The absorbent article according to claim 1, wherein the absorbent structure further comprises a second storage layer and wherein the second storage layer partly or entirely encloses the first storage layer.

16. An absorbent article comprising a liquid permeable upper surface and an absorbent structure, which article in the longitudinal direction has a crotch portion and two end portions, wherein the absorbent structure comprises an acquisition layer and at least one first storage layer comprising a super absorbent material, and said first storage layer in the crotch portion of the absorbent structure has apertures or recesses.

17. The absorbent article according to claim 16, wherein the first storage layer comprises at least 50 percent by weight of a super absorbent material calculated on the total weight of the first storage layer.

18. The absorbent article according to claim 16, wherein the first storage layer in a dry condition has a density exceeding 0.4 g/cm^3.

19. The absorbent article according to claim 16, wherein the apertures or recesses extend through an entire thickness of the first storage layer.

20. The absorbent article according to claim 16, wherein the first storage layer has a first surface facing the liquid permeable upper surface of the article, and a second surface facing away from the liquid permeable surface of the article, wherein the acquisition layer lies close to the first surface of the storage layer.

21. The absorbent article according to claim 16, wherein the first storage layer has a first surface facing the liquid permeable upper surface of the article, and a second surface facing away from the liquid permeable surface of the article, wherein the acquisition layer lies close to the second surface of the storage layer.

22. The absorbent article according to claim 16, wherein the absorbent structure further comprises a second storage layer containing a lower amount of super absorbent material calculated on the total weight of the storage layer than the first storage layer.

23. The absorbent article according to claim 16, wherein the absorbent structure further comprises a second storage layer and wherein the second storage layer partly or entirely encloses the first storage layer.